UNIVERSAL WEIGHT ENTERPRISE

W-22

Operation Manual

VER: 2.0.1

July/2004

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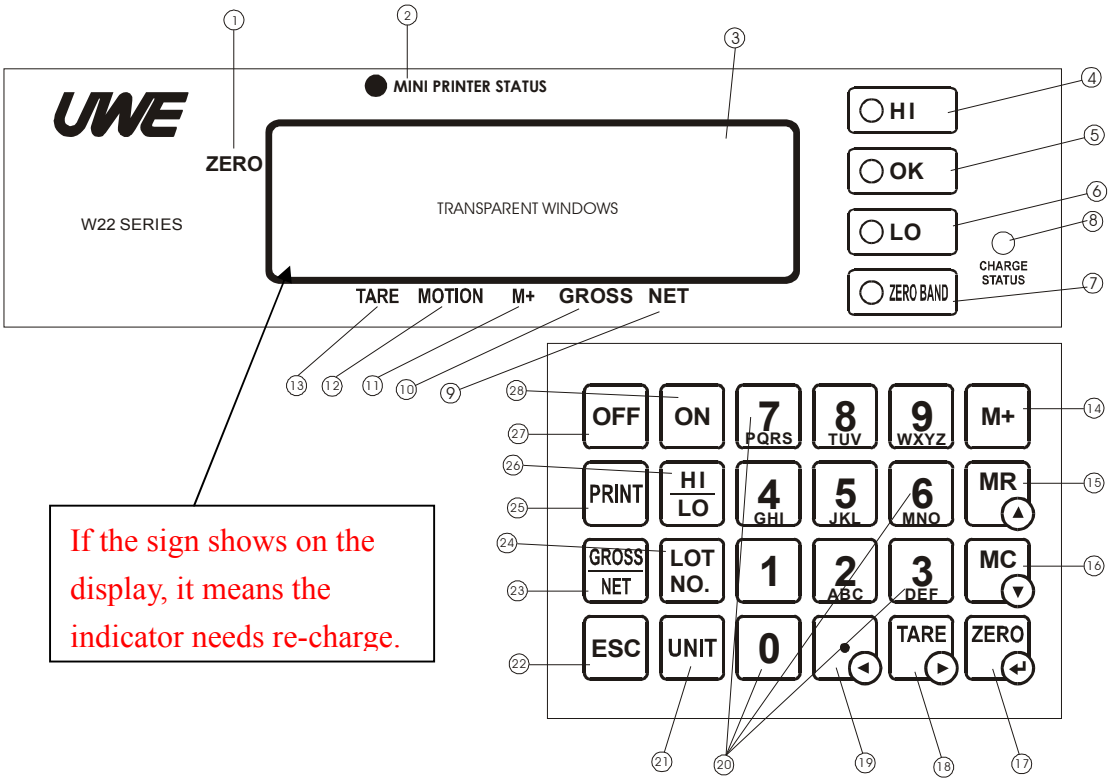
1. *HARD WARE SPECIFICATION：*

1.1. SPECIFICATION

1. Display : 6 digits LCD, 26mm height
2. Display Resolution : Maximum of 30,000 verification scale intervals
3. Division : 1 , 2 , 5 , 10 , 20 , 50 selection
4. Input Sensitivity : 0.1uV / division or above
5. Zero Adjustable Range : -2 mV ~ 20 mV
6. Non-Linearity : +/- 0.0033% F.S.
7. A/D Conversion Type : △Σ
8. A/D Resolution : 24 bits
9. A/D Conversion Speed : 50 times / sec
10. Maximum Input Voltage : 20 mV
11. Load Cell Excitation : DC 5 V (up to 8 x 350Ω load cells)
12. Zero Drift : 0.3 uV /℃ (typ.)
13. Span Drift : +/- 8 PPM /℃ (typ.)
14. Power supply : AC 110 V or AC 220 V + /- 10 %，50/60 Hz， 5 W power consumption when charging
15. Operating Temperature : 0 ~ 40 ℃
16. Operating Humidity : < 90 % R.H. Non-condensing
17. Net Weight : 2.8 kg
18. Dimension : 210 (D) × 300 (W) × 130 (H) mm

1.2. STRUCTURE

1.2.1. FRONT OVERLAY DESCRIPTION(▼)


UWE
W22 SERIES
ZERO
MINI PRINTER STATUS
TRANSPARENT WINDOWS
HI
OK
LO
ZERO BAND
CHARGE STATUS
TARE MOTION M+ GROSS NET
OFF ON 7 PQRS 8 TUV 9 WXYZ M+
PRINT HI/LO 4 GHI 5 JKL 6 MNO MR
GROSS/NET LOT NO. 1 2 ABC 3 DEF MC
ESC UNIT 0 TARE ZERO
If the sign shows on the display, it means the indicator needs re-charge.

① **ZERO :** IT APPEARS WHEN THE SCALE IS AT ZERO WEIGHT STATUS.

② **MINI PRINTER STATUS LIGHT :** IT APPEARS WHEN THE PRINTER IS ON STANDBY (THIS LIGHT MUST BE TURNED ON AFTER THE W-22 IS SWITCHED ON).

③ **TRANSPARENT WINDOWS :** IT SHOWS THE ACTUAL WEIGHT ON THE DISPLAY.

④ **HI :** IT APPEARS WHEN THE DETECTED OBJECTIVE IS HEAVIER THAN HIGH CHECKING VALUE.

⑤ **OK :** IT APPEARS WHEN THE WEIGHT OF OBJECTIVE IS BETWEEN THE HIGH AND LOW RANGE.

⑥ **LO :** IT APPEARS WHEN THE DETECTED OBJECTIVE IS SMALLER THAN LOW CHECKING VALUE.

⑦ **ZERO BAND :** IT APPEARS WHEN THE DETECTED OBJECTIVE IS BELOW THE PRESET ZERO RANGE.

⑧ **CHARGE STATUS :** THIS DUAL COLOR LED SHOWS THE CHARGING STATUS OF THE INDICATOR (RED-LIGHT IS IN CHARGE, GREEN-LIGHT CHARGE COMPLETE).

⑨ **NET :** IT APPEARS WHEN THE INDICATOR SETS WEIGHING OBJECTIVE AS NET WEIGHT.

⑩ **GROSS :** IT APPEARS WHEN THE INDICATOR SETS WEIGHING OBJECTIVE AS GROSS WEIGHT.

⑪ **M+ :** IT APPEARS WHEN THE INDICATOR IS ACCUMULATING DATA.

⑫ **MOTION :** IT APPEARS WHEN THE INDICATOR DETECTS THE WEIGHING STATUS IS UNSTABLE.

⑬ **TARE :** IT APPEARS WHEN THE TARE FUNCTION IS ENABLED。

⑭ **M+ :** PRESS THIS KEY TO ACCUMULATE CURRENT WEIGHT TO MEMORY. THIS KEY CAN ALSO BE SET TO SEND DATA OF INDIVIDUAL TRANSACTION TO PRINTER.

⑮ **MR :** PRESS THIS KEY TO RECALL TOTAL ACCUMULATED WEIGHT RESULT STORED IN MEMORY / IN FUNCTION MODE, THIS KEY REPRESENTS UP AND INCREASE VALUE.

⑯ **MC :** PRESS THIS KEY TO CLEAR THE ACCUMULATED DATA STORED IN MEMORY. THIS KEY CAN ALSO BE SET TO SEND DATA OF ACCUMULATED TRANSACTIONS TO PRINTER / IN FUNCTION MODE, THIS KEY REPRESENTS DOWN AND DECREASE VALUE.

⑰ **ZERO :** PRESS THIS KEY TO RESET THE DISPLAY VALUE AS ZERO / IN FUNCITION MODE, THIS KEY REPRESENTS ENTER.

⑱ **TARE :** PRESS THIS KEY TO TARE OFF THE WEIGHT / IN FUNCTION MODE, THIS KEY REPRESENTS RIGHT SHIFT.

⑲ **DECEMAL :** PRESS THIS KEY TO SET DECIMAL PLACE / IN FUNCTION MODE, THIS KEY REPRESENTS LEFT SHIFT.

⑳ **NUMBER KEY :** PRESS THESE KEYS TO ENTER LOT NUMBER (ALPHANUMERIC SYSTEM)

㉑ **UNIT :** PRESS THIS KEY TO SWITCH BETWEEN DIFFERENT WEIGHING UNITS.

㉒ **ESC :** PRESS THIS KEY TO EXIT DURING PARAMETER SETUP.

㉓ **GROSS/NET :** PRESS THIS KEY TO SWITCH WEIGHT DISPLAYED BETWEEN GROSS OR NET WEIGHT.

㉔ **LOT NUMBER :** PRESS THIS KEY TO ENTER THE LOT NUMBER OF WEIGHING OBJECT.

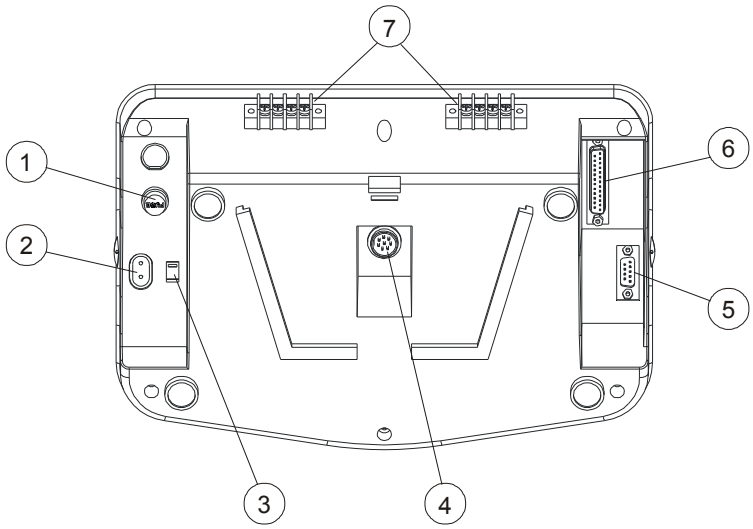
㉕ **PRINT :** PRESS THIS KEY TO SEND DATA TO PRINT.

㉖ **HI/LO :** PRESS THIS KEY TO SET THE VALUE FOR HI OR LOW LIMIT.

㉗ **OFF :** PRESS THIS KEY TO TURN SCALE OFF.

㉘ **ON :** PRESS THIS KEY TO TURN SCALE ON.

1.3. BACK VIEW



① POWER FUSE (dia. 5mm x 20mm，0.5A FUSE)

② AC POWER SOCKET

③ 110 / 220V SWITCH CLIP

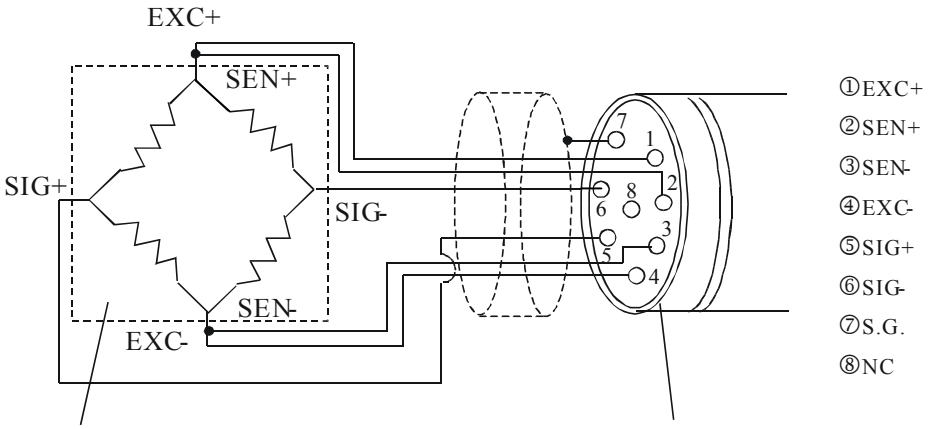
④ LOAD CELL CONNECTOR (8 PIN)

⑤ RS-232 INTERFACE (D-SUB 9 PIN)

⑥ PIRNTER INTERFACE

⑦ RELAY OUTPUT CONNECTOR (HI，OK，LO，ZERO BAND 4 SETS)

1.4. LOAD CELL CONNECTION PICTURE



LOAD CELL CONNECTOR (8PIN)

PIN	NAME
1	EXC+
2	SEN+
3	SEN-
4	EXC-
5	SIG+
6	SIG-
7	S.G.
8	N.C.

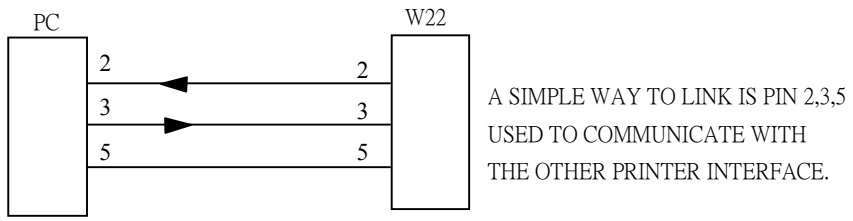
NOTE：IF THE LOAD CELL ONLY HAS 4 CABLES, PLEASE SHORT THE EXC+ AND SEN+, SEN- AND EXC-.

1.5. RS-232 INTERFACE (D-SUB 9PIN)

I. Baud Rate ：SELECTABLE[1]
II. Data Bit ：7 OR 8 bit
III. Parity Bit ：ODD, EVEN AND NONE
IV. Stop Bit ：1 bit
V. DATA CODE ：ASCII
VI. THIS INDICATOR CAN OFFER BI-DIRECTION DATA TRANSMISSION.

PIN DESCRIPTION (FROM THE PC TERMINAL)：

PIN	NAME
1	DCD
2	RXD
3	TXD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	NC



[1] Please see section 3.2 & 3.3

1.6. RELAY OUTPUT

RELAY OUTPUT PIN DESCRIPTION

1. RELAY OUTPUT CAPACITY (MAX)：AC120V 1A，DC24V 2A。
2. 4 RELAY OUTPUT PIN SETS: HI、OK、LO、ZERO BAND.

PIN DESCRIPTION：

PIN NUMBER	ACTION	PICTURE
1. HI (Normal Open)	OPEN	
2. HI (Common)	SHORT	
3. OK (Normal Open)	OPEN	
4. OK (Common)	SHORT	
5. LO (Normal Open)	OPEN	
6. LO (Common)	SHORT	
7. ZERO BAND (Normal Open)	OPEN	
8. ZERO BAND (Common)	SHORT	

2. QUICK OPERATION INTRODUCTION:

2.1. Press "**ON**" key to turn the scale on. If there is anything left on the platform please remove it to make sure the reading number is zero.

2.2. Tare:

2.2.1. Actual weight tare: Put the container on the platform, press "**Tare**" to tare off the weight of container.

2.2.2. Pre-Tare: Press the number key to input the weight wanted to be tared. Then, press "**Zero**" to confirm. The display will show a negative number which is the Pre-Tare weight.

2.3. Set Lot/Serial Number:

2.3.1. Press "**Lot**" key, Press "**MC**" or "**MR**" to select Lot number (mtL no) or Serial number (Ser no), Press "**Zero**" to confirm, use number key to key in the numbers (Hold the number key to choose the alphabet), Press "**Zero**" to confirm again. If any mistake happened in the key-in process, Press "ESC" to abandon the setting.

2.4. HI/LO Setting:

2.4.1. To use Hi/Lo setting, the indicator has to enable the "Check Weighing function"[2].

2.4.2. Press "**HI/LO**" key, in the mean time, the LO LED lights up. Press the weight for LO (ex. 500.0kg, press "5" "0" "0" "0"), Press "**Zero**" to confirm. Then, the HI LED lights up. Press the weight for HI (ex. 1000.0kg, press "1" "0" "0" "0" "0"), Press "**Zero**" to confirm.

2.5. Weight Accumulation Function:

2.5.1. To use the Weight accumulation function, the indicator has to enable the parameter for accumulation.[3]

2.5.2. W-22 has 2 accumulation methods { Auto-Accumulation and Manual Accumulation}[4]. Auto-Accumulation will automatically add the weight when the weighing status is stable. The Manual Accumulation has to use "**M+**" to do the accumulation.

2.5.3. Press "**MR**" to show the total accumulation result on the display.

2.5.4. Press "**MC**" to clear the total accumulation result in the memory.

2.5.5. If the printer function is enabled, press "**MC**" will clear the memory and print the result out.

2.6. Printer Function

2.6.1. W-22 has 2 printer methods[5] { Auto-Print and Manual Print}. Auto-Print will automatically print the weight when the weighing status is stable. The Manual Print has to press "**Print**" to do the print action.

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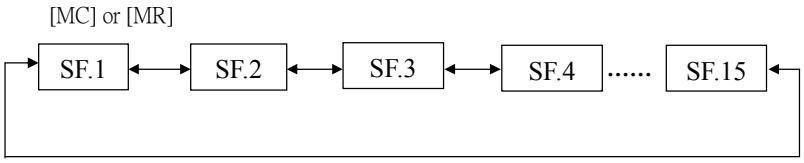
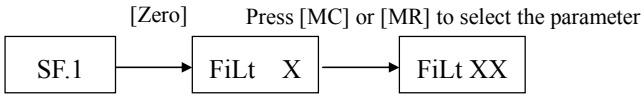
[2] See Section 3.6 & 3.6.1
[3] See Section 3.6 & 3.6.1
[4] See Section 3.6 & 3.6.2
[5] See Section 3.4.2

3. Parameter Setting:

NOTE. Hold 〝**MC**〞 and press 〝**ON**〞 to enter to Parameter Setting mode menu (Press 〝**MR**〞(up) or 〝**MC**〞(down) 〝**ESC**〞(abandon) 〝**Zero**〞(confirm) to chose the menu：SF.1,SF.2,….), Press 〝**Zero**〞 to enter to the each single feature for setting. If any mistake occurs during the procedure, press 〝**ESC**〞 to abandon the setting.

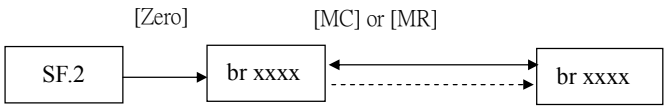


3.1. DIGITAL FILTER SETUP: (default = 5)



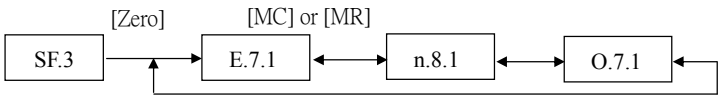
SF.1	Digital Filter Strength	Response Speed	Environment Interference Stability
0	NO	QUICK	BAD
1	WEAK		
2			
3			
4	⬆	⬆	⬆
5			
6	⬇	⬇	⬇
7			
8			
9			
10	STRONG	SLOW	EXCELLENT

3.2. RS-232 BAUD RATE SETUP: (default = 9600 bps)



Baud Rate : (300bps , 600bps , 1200bps , 2400bps , 4800bps , 9600bps , 19200bps)

3.3. RS-232 DATA PROTOCAL SETUP: (default = E.7.1)

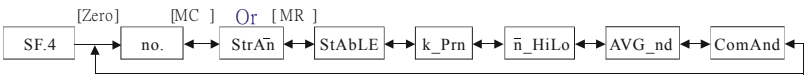


Parity Check Setting:

E.7.1 : Even parity check bit : 7 data bits, 1 stop bit.
N.8.1 : No parity check bit : 8 data bits, 1 stop bit.
O.7.1 : Odd parity check bit : 7 data bits, 1 stop bit.

3.4. DATA TRANSMISSION MODE:

(default = n̄_HiLo ACCUMULATION or HI, LO, OK SEND**)**



Data Transmission Mode (Printer / RS-232)

no.	Send nothing
StrAn̄	Continuous Send Mode
StAbLE	Send after stable Mode
k_Prn	Press “Print” to send Mode
n̄_HiLo	Accumulation or HI,OK,LO send Mode
AVG_n̄d	Health scale (Animal scale) Mode
ComAnd	RS232 Command Mode

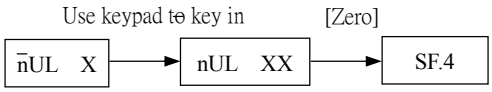
Command Mode:

A. “READ” “CR” “LF” → Read data from Indicator[6].
B. “ZERO” “CR” “LF” → This command works the same way with key “ZERO”.
C. “TARE” “CR” “LF” →This command works the same way with key “TARE”.
D. “NTGS” “CR” “LF” →This command works the same way with key “NET/GROSS”.

[6] See Section 3.5

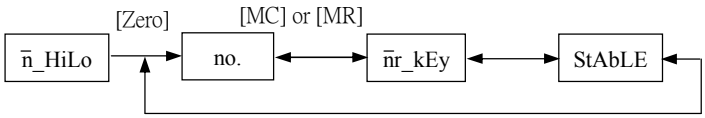
3.4.1. n̄UL X (Stable Time Setting) submenu:

The nUL X appears when the data transmission mode has been set up. When the nUL X shows on the screen, key in the value from **1 to 20** to confirm the time of stability. The large the number is, the scale needs the longer time to get stable.



3.4.2. n̄_HiLo (default = n̄r_key)

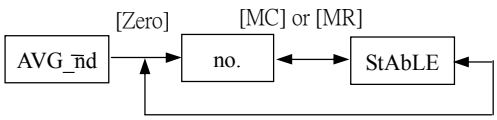
If the data transmission mode is set as n̄_HiLo, then, an extra step has to be taken after stable time setting.



n̄_HiLo	no.	Disable
	n̄r_kEy	Press “M+” to send data
	StAbLE	Auto-Send data after stable

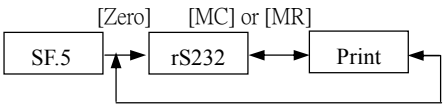
3.4.3. AVG_n̄d

If the data transmission mode is set as AVG_n̄d, than, an extra step has to be taken after stable time setting.



AVG_n̄d	no.	Disable
	StAbLE	Auto-Send After Stable

3.5. DATA FORMAT: (default = Fort3)



Data Format (RS-232 / PRINTER)

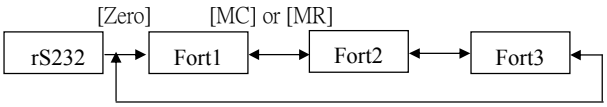
RS-232 has 3 data formats (Format1~Format3)

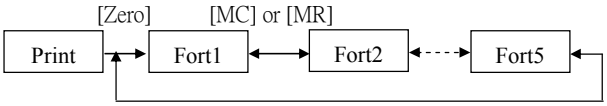
PRINTER can use 5 data formats(Format1~Format5)

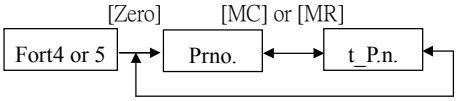
Format1~Format3 is specially designed for peripheral Printer (Dot-Matrix，9 pin or 24 pin) format

Format4 is for built in MINI PRINTER format

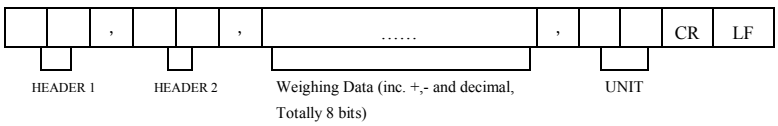
Format5is for peripheral THERMAL BAR CODE PRINTER (OS203DT) format



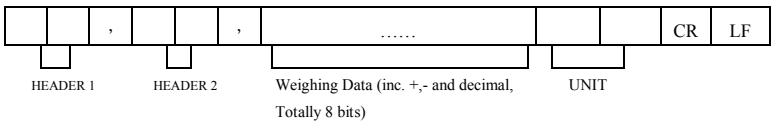




When **Fort = 1,** Data format lists below (** there is a comma ”,”between data and unit)：



When **Fort = 2,** Data format lists below (** there is no comma ”,”between data and unit)：



HEADER 1　　HEADER 2　　UNIT
OL：OVERLOAD　　NT：NET WEIGHT　　kg，lb
ST：STABLE　　GS：GROSS WEIGHT
US：UNSTABLE

When **Fort=3,** the format of data is：Date/Time + Fort2 data format

When **Fort=4,** the format of data is for MINI PRINTER (16 columns) data format

When **Fort=5,** the format of data is for THERMAL PRINTER data format

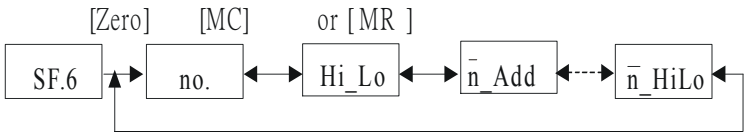
In Fort4、5, (when SF.4 setting is $\overline{n}$_HiLo), the Sub-Menu can set print copies for each weight and total weight：

Prno. → Set Each Weight Copies
t_P.n. → Set Total Weight Copies

Note: After the setting of copies, if press “ESC” then the display shows E_Prn , By pressing “MC” or “MR” to set the language as below

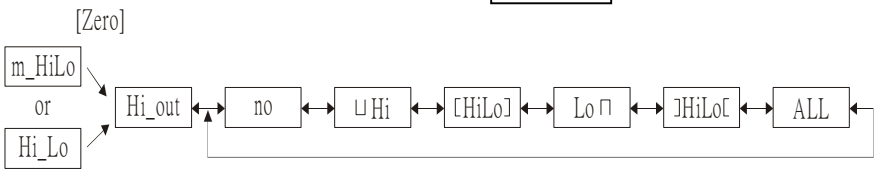
E_Prn → English Mode
C_Prn → Chinese Mode(BIG 5)
CC_Prn → Chinese Mode(GB)
(Only in Thermal Printer)

3.6. OPERATION MODE SETUP: (default : n̄_ HiLo)



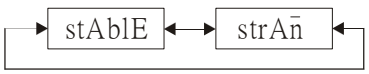
no.	Disable
Hi_Lo	Hi-Lo Check Mode
n̄_Add	Accumulation Mode
n̄_HiLo	Accumulation and Hi-Lo Check Mode

3.6.1. When the Operation Mode is in Hi Lo and n̄_HiLo :



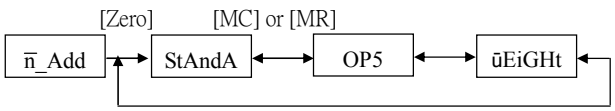
no.	Disable
⊔Hi	Output data when the weight is higher than “Hi”value
[HiLo]	Output data when the weight is between Hi and Lo
Lo⊓	Output data when the weight is lower than “Lo”value
]HiLo[	Output data when the weight is not between the Hi and Lo range
ALL	Output data anyway

After the Operation Mode is confirmed, the display shows Hi_mod



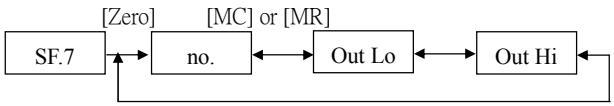
StrAn̄	Continuous check HI-OK-LO status
StAbLE	Check HI-OK-LO status after stable

3.6.2. When the Operation Mode is in n̄_Add or n̄_HiLo, Press “Zero” to enter to sub-menu to set the RS-232 format:



StAndA	RS-232 standard output format please see with Label Print section。
OP5	RS-232 output format (please see the format 2 in Section 3.5), it can connect to OP5 display board.
ūEiGHt	Only weight data can be sent.

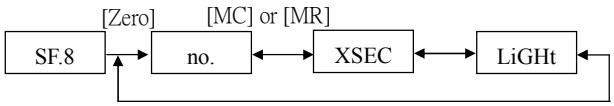
3.7. RELAY OUTPUT SETUP: (default = Out_Hi)



RELAY Output

	Normality	Action
no	Disable	Disable
Out Lo	Relay output status is Close	Relay output status is Open
Out Hi	Relay output status is Open	Relay output status is Close

3.8. BACKLIGHT SELECTION: (default = 3 sec)



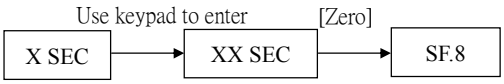
Backlight Select

no. ：Backlight off

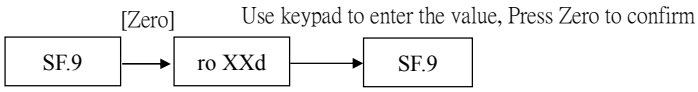
XSEC ：Turn on the backlight for X seconds (Max = 20 sec)

LiGHt ：Always turn on the backlight

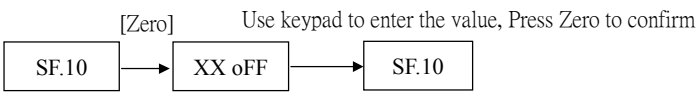
When the XSEC is selected, press the number keypad to enter the time setting and press "**Zero**" to confirm it.



3.9. RELAY OUTPUT ZERO RANGE SETUP: (default = 0)

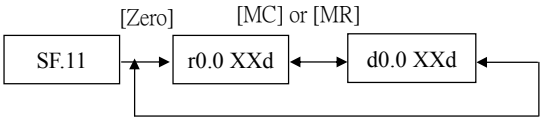


3.10. AUTO POWER OFF SETUP: (default = 30 min)



Set auto off time, Maximum time is 99 minutes.

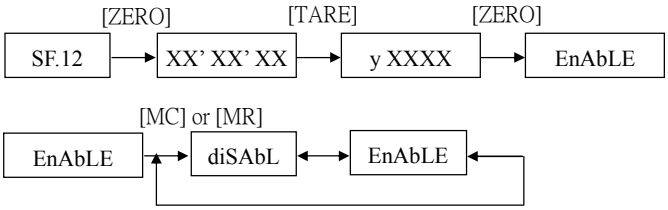
3.11. AUTO ZERO TRACKING RANGE SETUP: (default = 0)



r0.0 XXd ：Within the setting range, the weight is forced to be zero (Max = 99 div)

d0.0 XXd ：Within the setting range, the display shows zero (but it does counting inside the program); when the weight is over the setting range, the display shows the actual weight.

3.12. DATE SETUP:



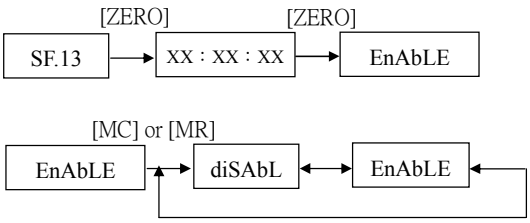
Format XX' XX' XX ： year / month / day (C.E.)

When the monitor shows XX' XX' XX, press "TARE" to set the year (EX. y 2003)。

EnAbLE：Print out Date with Data (default setting)

diSAbL ：Disable Date Print

3.13. TIME SETUP:

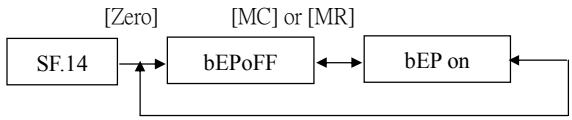


Format XX：XX：XX ： hour / minute / second (24 hours format)

EnAbLE：Print out time with data. (default setting)

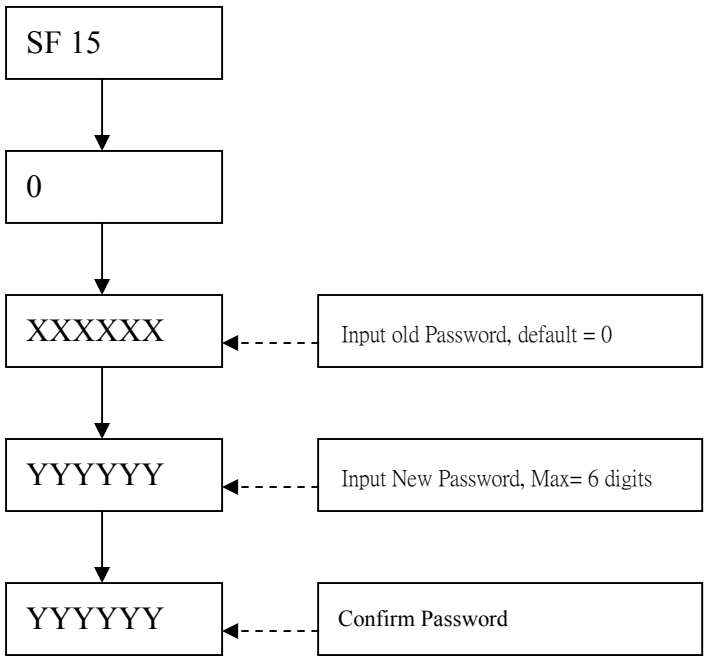
diSAbL ：Disable time print

3.14. BEEP MODE SETUP: (default = bEPoFF)



BEEP Mode Setting
bEPoFF ：Disable Beep
bEP on ：Beep

3.15. PASSWORD SETUP: (default = 0)

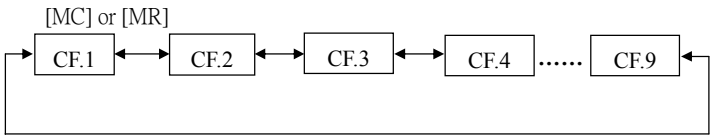


PASSWORD IS ONLY AVAILABLE IN CF MODE.

4. CALIBRATION:

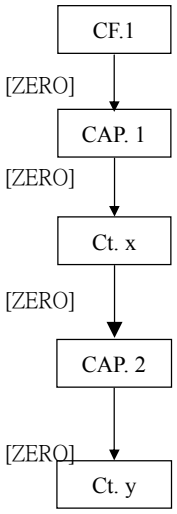
NOTE: Press 〝**Tare**〞 and hold，then Press 〝**ON**〞 to enter the Calibration Setting mode(Press 〝**MR**〞 (up) or 〝**MC**〞 (down) 〝**ESC**〞 (abandon) 〝**Zero**〞 (confirm) to chose the menu：CF.1, CF.2,….), Press 〝**Zero**〞 to enter to the each single feature for setting. If any mistake occurs during the procedure, press 〝**ESC**〞 to abandon the setting.

4.1. CALIBRATION AND PARAMETER SETUP



4.1.1. Capacity & Division

1. Use KeyPad to enter the Capacity.
2. The decimal point and weight unit can be set in CAP.1 and CAP.2 by using “MR” and “MC”.
3. Press “Zero” to confirm and enter to next step.
4. Press “MR” and “MC” to set the division



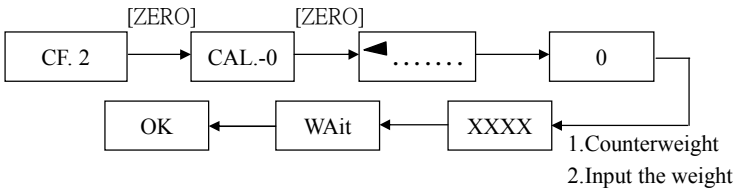
Maximum Capacity。(Graduation / Maximum Capacity >= 1/30000)

Second Graduation. (1, 2, 5, 10, 20, 50, Notice: the accuracy = Minimum Graduation / Maximum Capacity =< 1/30000)

First Capacity. (extract a capacity between zero and max capacity. The indicator will use first graduation from zero to first capacity and use second graduation from first capacity to maximum capacity).
** If customers only need one graduation, press “zero” to escape.

First Graduation. (1, 2, 5, 10, 20, 50, Notice: the total divisions = Max1 / e1 + Max2 / e2 should not exceed 30,000)

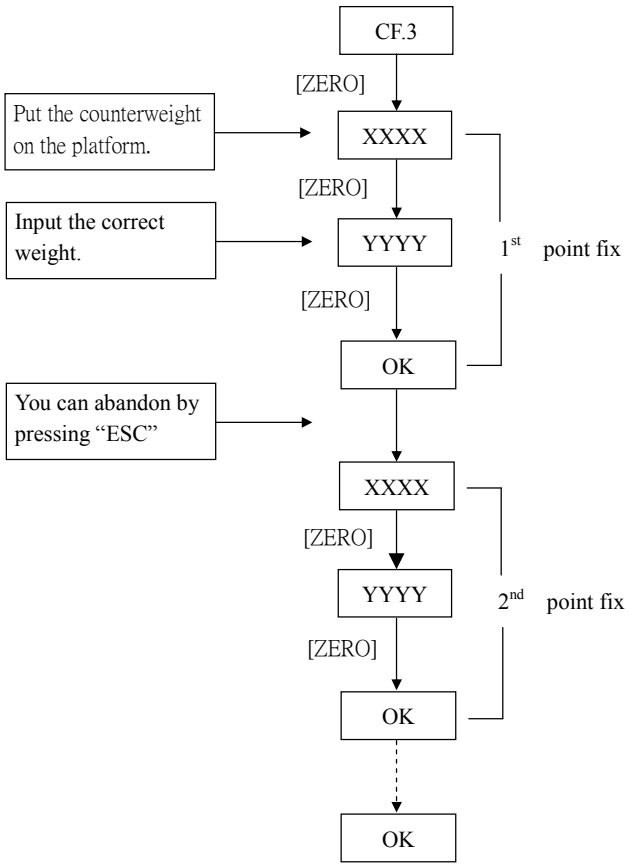
4.2. CALIBRATION



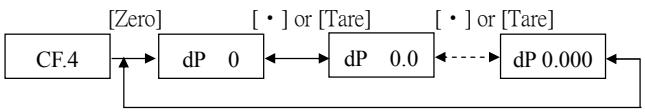
Steps	Display
1. Enter to 〝CF.2〞	CF.2
2. Press ZERO key,The indicator will do the Zero Calibration 〝CAL.-0〞 (Please remember to remove the weight on the platform)	CAL-0
3. Press ZERO If it shows〝 ◄.....〞, it means the Zero Calibrtion is successful.	◄.....
4. The display shows 〝0〞 Please key in the weight you would like to calibration.; The closer the counterweight to the maximum weight, the accurate the weighing result will be. XXXX：Please input the weight of the counterweight.	0 → XXXX
5. Put the counterweight on the platform. When it becomes stable, Press ZERO ， If the display shows 〝WAit〞 and 〝OK〞 , it means the calibration is successful.	WAit → OK

4.3. WEIGHT CORRECTION (LINEARITY CORRECTION)

Enter to the CF.3, gradually adding counterweight on the platform. The indicator can fix the linear problem occurred by the Load Cell, It can fix up to 5 points.

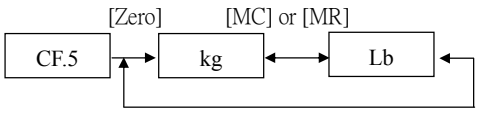


4.4. DECIMAL POINT SETUP:

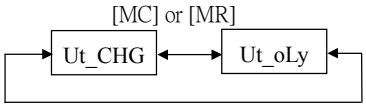


The decimal point is moved in sequence as 0, 0.0, 0.00, 0.000

4.5. POWER ON WEIGHT UNIT SETUP:

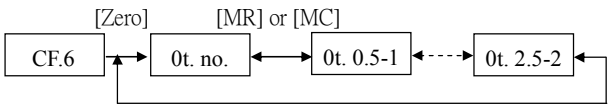


When the unit has been set, press "Zero" to confirm. The next step is to set the "Unit Switch Botton Menu":



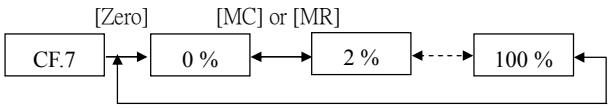
Ut_CHG	Press〝Unit〞to switch the weight unit
Ut_oLy	Can only use one unit.

4.6. ZERO TRACKING RANGE SETUP: (default = 1.5div / 1sec)



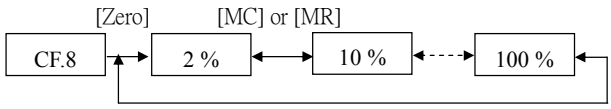
no. ：Disable
0.5-1 ：0.5 div. / 1 sec.
1.0-1 ：1.0 div. / 1 sec.
1.5-1 ：1.5 div. / 1 sec.
2.0-1 ：2.0 div. / 1 sec.
2.5-1 ：2.5 div. / 1 sec.
0.5-2 ：0.5 div. / 2 sec.
1.0-2 ：1.0 div. / 2 sec.
1.5-2 ：1.5 div. / 2 sec.
2.0-2 ：2.0 div. / 2 sec.
2.5-2 ：2.5 div. / 2 sec.

4.7. POWER ON AUTO ZERO RANGE SETUP: (default = 0%)



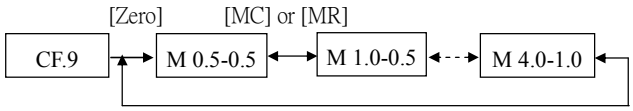
0 %
2 %
10 %
20 %
100 %

4.8. MANUAL ZERO RANGE SETUP: (default = 100%)



2 %
10 %
20 %
100 %

4.9. INSTABILITY DETECTION SETUP: (default = 1.0-0.5)



0.5-0.5 ：0.5 div / 0.5 sec.
1.0-0.5 ：1.0 div / 0.5 sec.
2.0-0.5 ：2.0 div / 0.5 sec.
3.0-0.5 ：3.0 div / 0.5 sec.
4.0-0.5 ：4.0 div / 0.5 sec.
0.5-1.0 ：0.5 div / 1.0 sec.
1.0-1.0 ：1.0 div / 1.0 sec.
2.0-1.0 ：2.0 div / 1.0 sec.
3.0-1.0 ：3.0 div / 1.0 sec.
4.0-1.0 ：4.0 div / 1.0 sec.

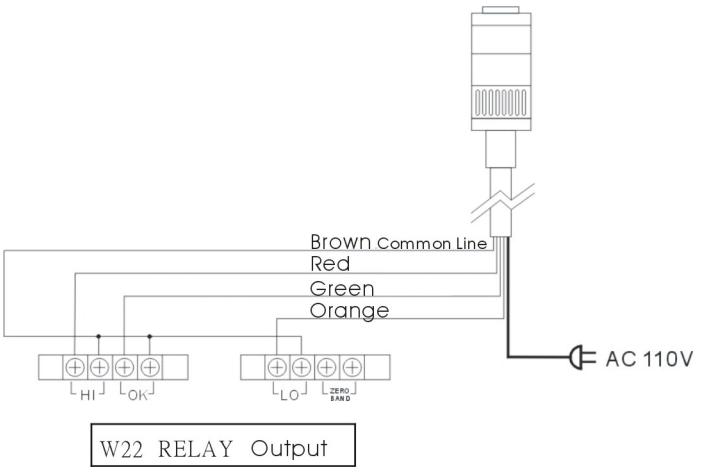
5. APPLICATION EXAMPLE:

5.1. WEIGHT CHECKING:

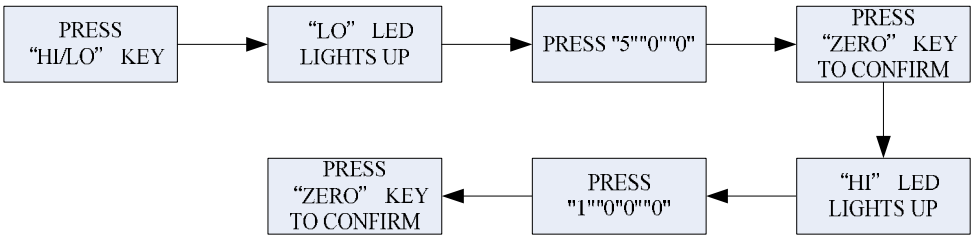
5.1.1. Parameter Setting

	Value
SF.4	n_HiLo
SF.5	Choose appropriate PRINTER/RS-232 output format
SF.6	Hi_Lo or n_HiLo
SF.7	Out Hi
SF.9	0~99
SF.14	bEPoFF or bEP on

5.1.2. Three Color Signal Indicator Pin Assignment

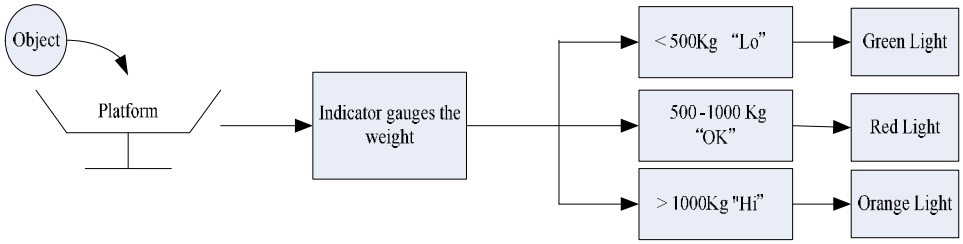


5.1.2.1. HI-LO SETUP (Set the value for Lo:500Kg, Hi:1000Kg as example)



Note:
Generally speaking, the Lo value is smaller than Hi value, However, if accidentally, the Lo value is larger than Hi value, the system will automatically correct it and make the smaller value in Lo and bigger value in Hi.

5.1.2.2. OPERATION



Note:

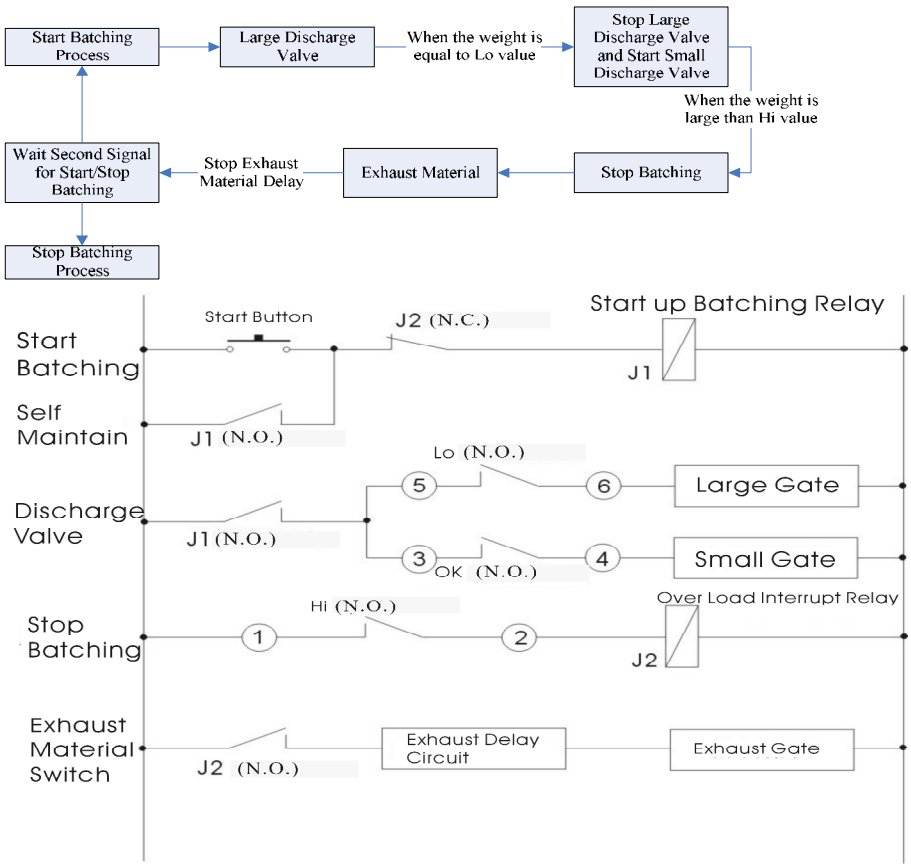
A. Printer Format: Please choose the printer format by referring to section 3.5. and "Label Print Format" section.

B. When Customer choose " n_HiLo" in S.F.6, press "M+" (please refer to section 3.4.2), the weight will be automatically accumulated and printed out. Press "MR" to show the total weight on the monitor and press "MC" to print out accumulated data and clear data in the memory.

5.1.3. SIMPLE BATCHING CONTROL

5.1.3.1. Use "RELAY" output control to operate external auto-control circuit. W22 can be used in "Batching Control System".

5.1.3.2. Operation procedure:



6. ERROR CODE AND DESCRIPTION

6.1. ZERO CALIBRATION:

When below error messages appear on the display, the zero calibration is invalid. Follow the steps to solve the problems.

6.1.1. AAAAAA

A. Poor connection
- **I. To check the connector wirings**

B. Wrong connection
- **I. To check SIG+ and SIG-**
- **II. To see if the polarity of signal is reversed.**

C. The input offset voltage is too low (over -1.5mV)
- **I. Parallel connect a resistor (100-500K ohm) between EXC + and SIG +**

D. Load Cell is damaged
- **I. To replace a new load cell**

6.1.2. UUUUUU

A. Poor or wrong connection
- **I. To Check the connector wirings**

B. The offset voltage is too high (over+2mV)
- **I. The load cell capacity is too small or it is malfunction. Change new load cells with bigger capacity.**

C. Load cell is damaged
- **I. To replace a new load cell.**

D. Thunderstorm damage
- **I. Return to UWE agent for thorough inspection.**

6.2. SPAN CALIBRATION

6.2.1. LLLLLL

A. Wire Connection is reversed at SIG+ & SIG-
- **I. Check the load cell connector to see if the polarity of signal is reversed.**

B. The load cell receipting direction is wrong
- **I. Check all load cells for correct installation.**

6.2.2. CCCCCC

A. The calibrate weight is too light
- **I. The calibrate weight should be at least 100 times of the minimum division**

6.2.3. ------

A. The output signal of load cell is inadequate for Span Calibration.
- **I. To decrease the display resolution.**
- **II. To change load cells with lower capacity.**

6.2.4. UUUUUU

A. The span value is too high (more than + 15 mV)
- **I. Replace new load cells with bigger capacities**

7. PRINT LABEL

7.1. Mini Printer (Built-in) (Internal)

(1) Parameter setup：

SF.4 → n̄_HiLo →n̄uL1 →n̄r _kEy

SF.5 → Fort 4 → XXX→ Press〝ESC〞key till “SF.5”appears

SF.6 → Hi_Lo → no → StrAm or StAbLE (P.14 Section 3.6)

600.2kg	L
1200.5kg	G
1799.6kg	G
1799.6kg	G
2400.8kg	H

** Only print the receipt for weight and check weighing status.

20003/09/17 17:45
P/No. ABC123
Ser. 1
N.W. 600.1kg
Tare 0.0kg
G.W. 600.1kg

20003/09/17 17:54
P/No. ABC123
Ser. 2
N.W. 1200.1kg
Tare 0.0kg
G.W. 1200.1kg

20003/09/17 17:54
P/No. ABC123
Total 2
TN.W. 1800.2kg
Tare 0.0kg
TG.W. 1800.2kg

(2) Parameter setup：

SF.4 → n̄_HiLo →n̄uL1 →n̄r _kEy

SF.5 → Fort 4 → Prno → Prno.1 ([MC] Set each time Print Copies) → Prno. [MC] → t_P.n.1 (Set Print Copies for Total weight") → t_P.n. →Press "ESC"key

SF.6 → n̲_Add → StAndA

** Customer can choose print copies for each label to be printed out and copies for total weight label to be printed out.

(3) Parameter setup：

SF.4 → n̄_HiLo →n̄uL1 →n̄r _kEy

SF.5 → Fort 3

SF.6 → n̄_HiLo → no → StrAm or StAbLE (P.14 Section 3.6)

** Print weight receipt (Time+Series+Weight+Checking Status+Total)

```
2003/04/23 16:05
P/No. AB-123
----------------------------
Max：      32.0kg
Min：      12.0kg
----------------------------
  01       10.0kg  L
  02       20.0kg  G
  03       30.0kg  G
  04       35.0kg  H
  05       20.0kg  G
----------------------------
  06       10.0kg  L
----------------------------
----------------------------
Total      125.0kg
```

(4) Parameter setup：

SF.4 → n̄_HiLo →n̄uL1 →n̄r _kEy

SF.5 → Fort 3

SF.6 → n̄_Add → StAndA

** Print weight receipt (Time+Series+Weight+Total)

```
20003/09/17 17:45
P/No. ABC123
--------------------------
--------------------------
01        599.9kg
02       1200.3kg
03       2400.6kg
04       3000.2kg
05       2400.5kg
--------------------------
--------------------------
Total    9601.5kg
```

(5) Parameter setup：

SF.4 → n̄_HiLo →n̄uL1 →n̄r _kEy

SF.5 → Fort 2

SF.6 → n̄_Add → StAndA

** Print weight receipt (Time+Serial No+Weight+Total)

** Print each weight and current accumulation weight data

```
20003/09/17 17:45
P/No. ABC123
--------------------------
--------------------------
06      599.9kg
        599.9kg
07      1200.3kg
        1801.2kg
08      2400.6kg
        4201.8kg
09      3000.2kg
        7202.0kg
--------------------------
--------------------------
Total   7202.0kg
```

(6) Parameter setup：

SF.4 → AVG_n̄d → n̄UL3 → StAbLE

SF.5 → Fort 4 → XXX→ Press "ESC" until SF.5 appears

SF.6 → n̄_Add → StAndA

** Print weight receipt in health scale mode

```
2003/10/17 16:40
600.3kg

2003/10/17 16:40
1200.6kg
```

7.2. Thermo Printer (External Printer):

(1) Parameter setup：

SF.4 → n̄_HiLo →n̄uL1 →n̄r _kEy

SF.5 → Fort 5 → Prno → Prno.1 ([MC] Set each time print copies) → Prno. [MC] → t_P.n.1 (Set total weight prin copies) → t_P.n. → Press "ESC" → E_Prn

SF.6 → n̄_HiLo → no → StrAm or StAbLE (P.14 Section 3.6)

** Customer can choose print copies for each label to be printed out and copies for total weight label to be printed out.

** English Label Format

20003/09/17 17:45
P/No. ABC123
SER. 1
N.W. 600.1kg
Tare 0.0kg
G.W. 600.1kg

20003/09/17 17:55
P/No. ABC123
SER. 2
N.W. 1200.1kg
Tare 0.0kg
G.W. 1200.1kg

20003/09/17 17:55
P/No. ABC123
Total 2
T N.W. 1800.2kg
Tare 0.0kg
T G.W. 1800.2kg

(2) Parameter setup：

SF.4 → n̄_HiLo →n̄uL1 →n̄r _kEy

SF.5 → Fort 5 → Prno → Prno.1 ([MC] Set each time print copies) → Prno. [MC] → t_P.n.1 (Set total weight prin copies) → t_P.n. → Press "ESC" → C_Prn

SF.6 → n̄_HiLo → no → StrAm or StAbLE (P.14 Section 3.6)

20003/09/17 17:45
批號 ABC123
序號 1
淨重 600.1 公斤
空重 0.0 公斤
總重 600.1 公斤

20003/09/17 17:45
批號 ABC123
序號 2
淨重 1200.1 公斤
空重 0.0 公斤
總重 1200.1 公斤

20003/09/17 17:46
批號 ABC123
總計 2
總淨重 1800.2 公斤
總空重 0.0 公斤
總重量 1800.2 公斤

** Customer can choose print copies for each label to be printed out and copies for total weight label to be printed out.

** Traditional Chinese Label Format

(3) Parameter setup：

SF.4 → n̄_HiLo →n̄uL1 →n̄r _kEy

SF.5 → Fort 5 →Prno → Prno.1 (
[MC]
Set each time print copies) → Prno.
[MC]
→ t_P.n.1 (Set total weight prin

copies) → t_P.n. → Press "ESC"

→ CC_Prn

SF.6 → n̄_HiLo → no → StrAm or StAbLE (P.14 Section 3.6)

20003/09/17 17:45
货号 ABC123
序号 1
净重 600.1 公斤
皮重 0.0 公斤
毛重 600.1 公斤

** Customer can choose print copies for each label to be printed out and copies for total weight label to be printed out.

** Simplified Chinese Label Format

20003/09/17 17:45
货号 ABC123
序号 2
净重 1200.1 公斤
皮重 0.0 公斤
毛重 1200.1 公斤

20003/09/17 17:46
货号 ABC123
累计 2
总净重 1800.2 公斤
总皮重 0.0 公斤
总毛重 1800.2 公斤

(4) Parameter setup：

SF.4 → StAbLE

SF.5 → Fort 5 → Prno → Prno.1 (
[MC]
Set each time print copies) → Prno.
[MC]
→ t_P.n.1 (Set total weight prin

copies) → t_P.n. → Press "ESC"

→ E_Prn

SF.6 → no. → StArdA

600.4 kg

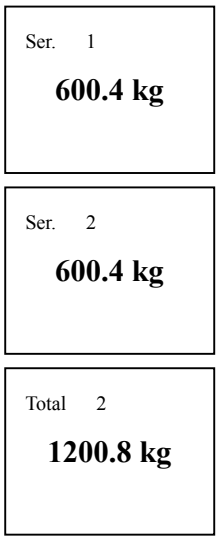
** Only print the weighing data with enlarged font

(5) Parameter setup：

SF.4 → n̄_HiLo →n̄uL1 →n̄r _kEy

SF.5 → Fort 5 → Prno → Prno.1 ([MC] Set each time print copies) → Prno. [MC] → t_P.n.1 (Set total weight prin copies) → t_P.n. → Press "ESC" → E_Prn

SF.6 → n̄_Add → StAndA



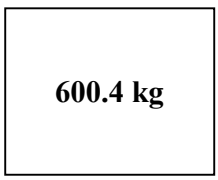
** Print the weight data with Enlarged font version and printed out the count for each individual label and total label number.

(6) Parameter setup：

SF.4 → n̄_HiLo →n̄uL1 →n̄r _kEy

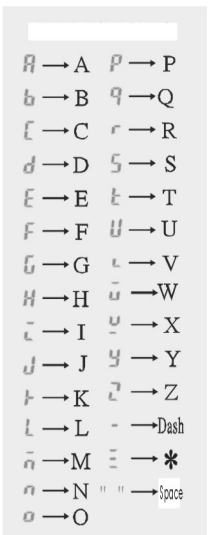
SF.5 → Fort 5 → Prno → Prno.1 ([MC] Set each time print copies) → Prno. [MC] → t_P.n.1 (Set total weight prin copies) → t_P.n. → Press "ESC" → E_Prn

SF.6 → Hi_Lo → strAm



** Print the weight data in checking mode with enlarged font version

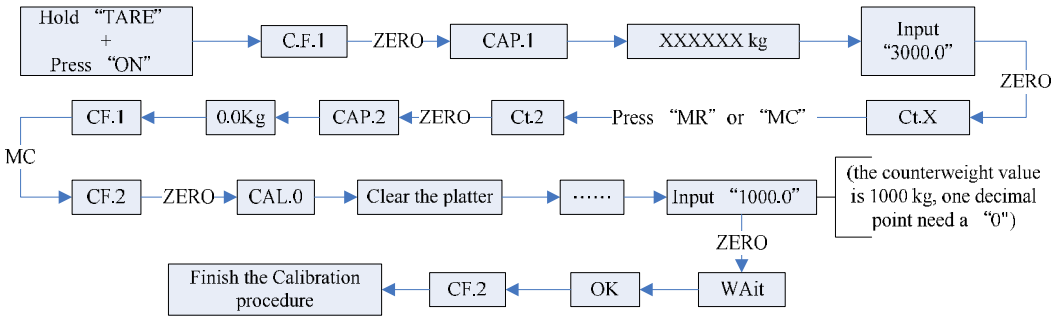
English alphabet contrast list (right picture)



8. APPLICATION EXAMPLE (II):

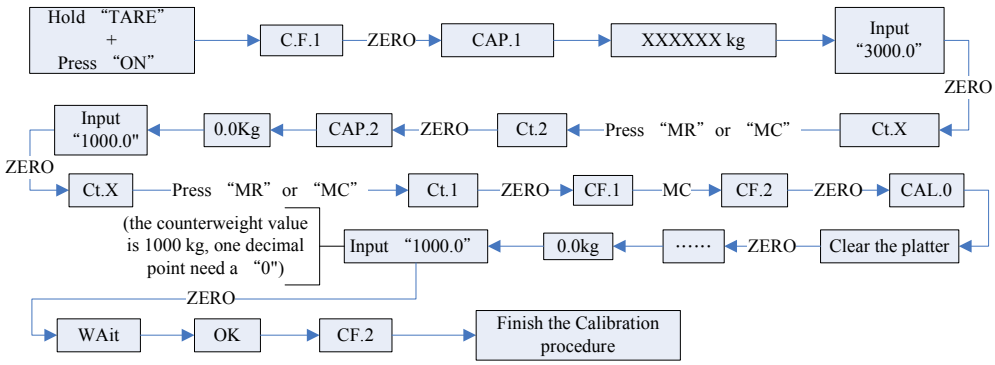
8.1. EXEMPLAR 1 (Single Interval Setup):

Situation: Customer wants to set up a 3000.0kg full capacity platform with 0.2kg division and use a 1000kg counterweight.



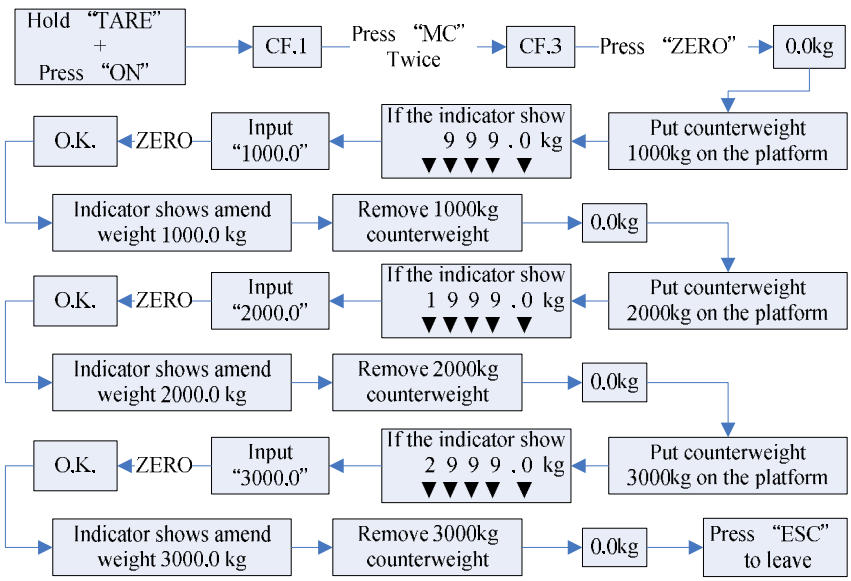
8.2. EXEMPLAR 2 (Dual Interval Setup):

Situation: Customer wants to set up a 3000.0 kg full capacity platform with 0.2kg divisions, the second capacity is 1000.0kg with 0.1kg division, and use a 1000kg counterweight.



8.3. EXEMPLAR 3 (LINEARITY CORRECTION)

Situation: This exemplar must be followed by Exemplar 1 or 2. and customer should have counterweight for 1000kg, 2000kg and 3000kg.

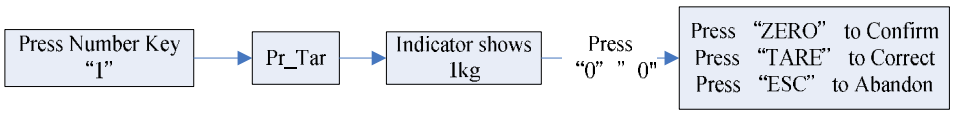


8.4. FUNCTION DESCRIPTION

A. PRE-TARE

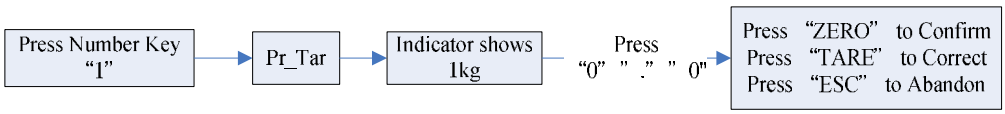
i. Situation: Pre-tare 100kg.

Operation Method:



ii. Situation: Pre-Tare 10.0kg

Operation Method:



iii. Situation: Clear Pre-Tare data

Operation Method:

a.

b. Press "TARE" key to clear Pre-Tare data.

B. TARE (Special Function)

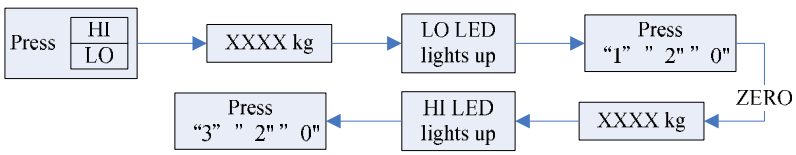
i. Press "TARE" for 3 sec, it can change the parameter from Section 3.4.2 m_HiLo[7].

ii. The Auto$\bar{n}$r is equal to 3.4.2 parameter StAbLE.

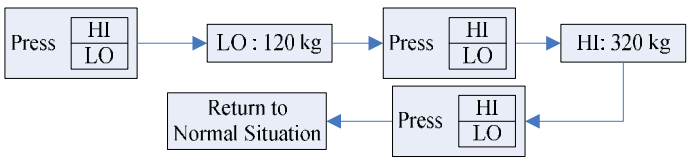
C. HI/LO

Condition: SF.4 = m_HiLo and SF.6 = HiLo or m_HiLo

i. Lo = 120kg, Hi = 320kg



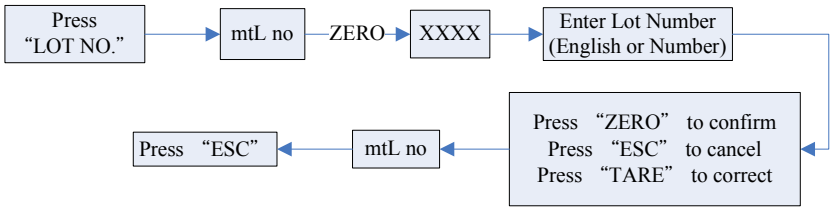
ii. Check the Hi, Lo value (in the condition of Lo = 120kg, Hi = 320kg):



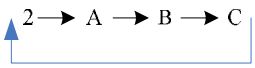
[7] See page 12 Section 3.4.2

D. LOT NUMBER

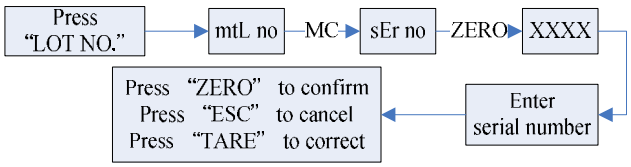
i. Lot Number Setup:



ii. English Alphabet: for example (Hold 2 for few seconds)



iii. Serial Number Setup



E. ACCUMULATION

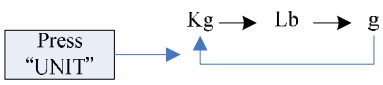
i. **Press "M+" to accumulate weight data and print out.**

ii. **Hold "M+" for 3 seconds, to minus this weight data from memory and print out.**

iii. **Press "MR" to show the total weight data on the display.**

iv. **Press "MC" to clear total accumulation data from the memory and print out.**

F. UNIT

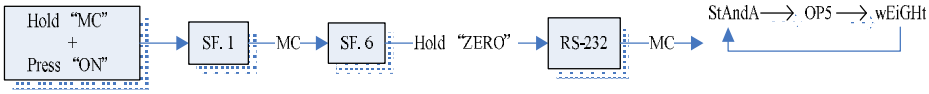


8.5. PERIPHERAL APPLICATION

8.5.1. OP-5L

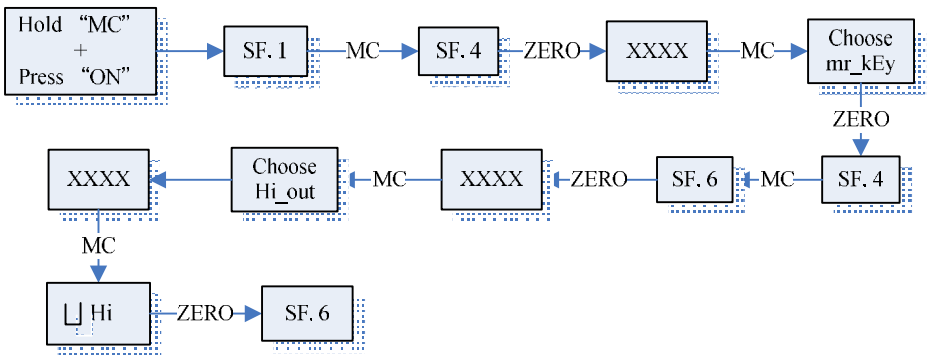
Connection for W-22 and OP5L

W22 (RS232 Interface)		OP5L (RS232 Interface)
2	———————	1
5	———————	2



8.5.2. HI-LO-GO SETUP

Condition: Lo = 120kg, Hi = 320kg, Output when the weight higher than 320kg.



8.5.3. REMOTE CONTROL FROM PC

8.5.3.1. In normal mode:

PC terminal:

"ZERO""CR""LF" = "ZERO" on the W-22 key board.

"TARE""CR""LF" = "TARE" on the W-22 key board.

"NTGS""CR""LF" = "NET/GROSS" on the W-22 key board.

8.5.3.2. In command mode: (SF.4 = ComAnd)

PC terminal:

"READ""CR""LF" = Receive weight data[8] from W-22.

[8] Weight Data Format please see P. 12, Section 3.5

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